

Amendment to the Claims

This Listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) An LCD device having a direct-type backlight comprising:

an LCD panel for displaying an image;

a plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in an area substantially corresponding to the LCD panel;

a heat protection plate formed between the LCD panel and the plurality of fluorescent lamps, for transmitting the light emitted from the plurality of fluorescent lamps, and for preventing the heat generated in the plurality of fluorescent lamps from being transmitted to the LCD panel;

a first open area is disposed between the heat protection plate and the LCD panel; and

a unitary case supporting the plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in the area substantially corresponding to the LCD panel and the heat protection plate, wherein the heat protection plate is disposed in the case and contacts the case.

2. (Original) The LCD device of claim 1, wherein the heat protection plate comprises at least one of a diffusion plate and an optical sheet.

3. (Original) The LCD device of claim 1, wherein the heat protection plate comprises a light transmitting plate.

4. (Original) The LCD device of claim 1, further comprising a reflecting plate disposed to reflect light from the fluorescent lamps to the LCD panel.

5. (Canceled)

6. (Previously presented) The LCD device of claim 4, wherein the reflecting plate is formed on the case.

7. (Original) The LCD device of claim 4, wherein the reflecting plate comprises a high optical reflectivity material comprising at least one of silver, titanium and a polymer.

8. (Previously presented) The LCD device of claim 1, wherein the case comprises a high heat conductivity material.

9. (Original) The LCD device of claim 8, wherein the high heat conductivity material comprises at least one of aluminum and an aluminum alloy.

10. (Original) The LCD device of claim 1, further comprising a second open area disposed between the heat protection plate and the plurality of fluorescent lamps.

11. (Original) The LCD device of claim 10, wherein the heat protection plate further comprises a plurality of heat protection panels, and a third open area is disposed between at least one pair of the plurality of heat protection panels.

12. (Original) The LCD device of claim 11, wherein the third open area is disposed between each pair of the plurality of heat protection panels.

13. (Original) The LCD device of claim 11, wherein the third open area is disposed between each pair of the plurality of heat protection panels.

14. (Original) An LCD device according to claim 12, wherein at least one of the plurality of heat protection panels comprises a light transmitting plate.

15. (Currently Amended) An LCD device having a direct-type backlight comprising:

an LCD panel displaying an image;

a plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in an area substantially corresponding to the LCD panel;

means for scattering light disposed between the LCD panel and the plurality of fluorescent lamps for transmitting the light emitted from the plurality of fluorescent lamps, and for preventing the heat generated in the plurality of fluorescent lamps from being transmitted to the LCD panel;

means for reflecting light toward the LCD panel;

a first open area disposed between the light scattering means and a rear surface of the LCD panel; and,

a unitary case supporting the plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in the area substantially corresponding to the LCD panel, the light-scattering means and the light reflecting means, wherein at least one of the light-scattering means and the light reflecting means contacts the case.

16. (Original) The LCD device of claim 15, wherein the light-scattering means comprises at least one of a diffusion plate and an optical sheet.

17. (Original) The LCD device of claim 15, wherein the light-reflecting means comprises a high optical reflectivity material coated on a high heat conductivity material.

18. (Original) The LCD device of claim 17, wherein the high optical reflectivity material comprises at least one of silver, titanium and a polymer.

19. (Original) The LCD device of claim 15, wherein the case comprises a high heat conductivity material.

20. (Original) The LCD device of claim 19, wherein the high heat conductivity material comprises at least one of aluminum and an aluminum alloy.

21. (Original) The LCD device of claim 15, further comprising a second open area disposed between the light-scattering means and the plurality of fluorescent lamps.

22. (Currently Amended) An LCD device having a direct-type backlight comprising:

an LCD panel for displaying an image;

a plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in an area substantially corresponding to the LCD panel;

a first diffusion plate and a first optical sheet attached to the LCD panel such that the first diffusion plate and the first optical sheet are disposed between the LCD panel and the plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in the area substantially corresponding to the LCD panel, for transmitting the light emitted from the plurality of fluorescent lamps, and for preventing the heat generated in the plurality of fluorescent lamps from being transmitted to the LCD panel;

a heat protection plate disposed between the LCD panel and the plurality of fluorescent lamps;

a unitary case for supporting the plurality of fluorescent lamps disposed below the LCD panel at fixed intervals in the area substantially corresponding to the LCD panel, the heat protection plate, wherein the heat protection plate is disposed in the case and contacts the case; and

a first open area disposed between the heat protection plate and the LCD panel.

23. (Original) The LCD device according to claim 22, wherein the heat protection plate comprises at least one of a second diffusion plate and a second optical sheet.

24. (Original) The LCD device according to claim 22, wherein the heat protection plate comprises a light transmitting plate.

25. (Original) The LCD device of claim 22, further comprising a reflecting plate disposed to reflect light from the fluorescent lamps to the LCD panel.

26. (Original) The LCD device of claim 25, wherein the reflecting plate comprises a high optical reflectivity material containing at least one of silver, titanium and a polymer.

27. (Canceled)

28. (Previously amended) The LCD device of claim 25, wherein the reflecting plate is formed on the case.

29. (Previously amended) The LCD device of claim 22, wherein the case comprises high heat conductivity material.

30. (Original) The LCD device of claim 29, wherein the high heat conductivity material comprises at least one of aluminum and an aluminum alloy.

31. (Original) The LCD device of claim 22, wherein a second open area is disposed between the heat protection plate and the fluorescent lamps.

32. (Original) The LCD device of claim 22, wherein the heat protection plate comprises a plurality of heat protection panels, and a third open area is disposed between at least one pair of the plurality of heat protection panels.

33. (Original) The LCD device of claim 32, wherein the third open area is disposed between each pair of the plurality of heat protection panels.

34. (Original) The LCD device of claim 32, wherein at least one of the plurality of heat protection panels comprises at least one of a diffusion plate and an optical sheet.

35. (Original) The LCD device of claim 32, wherein at least one of the plurality of heat protection panels comprises a light transmitting plate.

36-38. (Canceled)